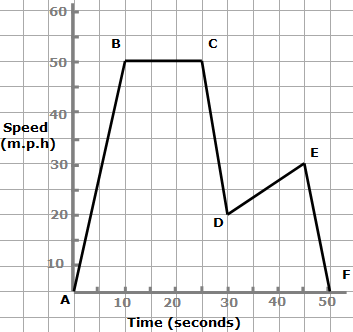
***CLASS COPY – DO NOT WRITE ON***

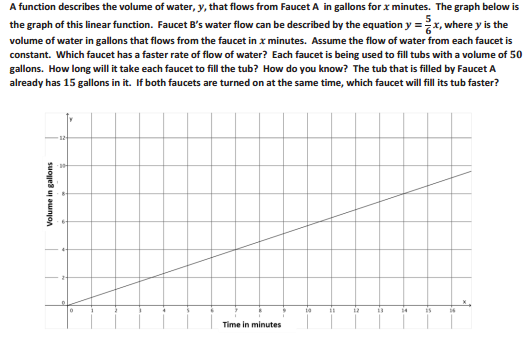
CW 22: Rate of Change

**Honors Geometry**

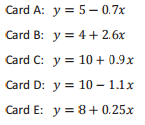
1. The graph shows how fast a car is traveling over a given period of time.
   1. Calculate the rate of change from A to B. Explain what this rate means in a complete sentence.
   2. Calculate the rate of change from E to F. Explain what this rate means in a complete sentence.
   3. What is happening during interval B to C?
2. Harry was driving a car at a constant speed on the Lake Shore Dr. He noticed that after driving for 1 hour, he had 12 gallons of gas left. Then, after driving for a total of 3 hours, he had 8 gallons of gas left.
   1. Calculate rate of change and describe what this rate means.
3. Calculate the rate of change for the water in the pool during the drainage procedure.
4. What is the rate of change between 0 hours and 6 hours?
5. Does a negative rate of change for the amount of water in the swimming pool make sense for this situation? Explain.
6. What is the rate of change between 2 hours and 8 hours?
7. Mr. Madonna was measuring his heart rate during a workout. His heart rate before he started working out (at 0 minutes), was 60 beats. After 10 minutes of exercise, his heart was beating at a rate of 110 beats per minute. After 40 minutes of exercise, Mr. Madonna’s heart rate was beating at a rate of 140 beats per minute.
8. What was the rate of change between 0 minutes of exercise and 10 minutes of exercise?
9. What was the rate of change between 10 minutes of exercise and 40 minutes of exercise?
10. Which part of his workout was the rate of change in Mr. Madonna’s heart beat the highest? What does this

mean? *(Describe in words how you know!)*

1. Alan and Margot drive from City A to City B, a distance of 𝟏𝟒𝟕 miles. They take the same route and drive at constant speeds. Alan begins driving at 1:40 p.m. and arrives at City B at 4:15 p.m. Margot’s trip from City A to City B can be described with the equation 𝒚 = 𝟔𝟒𝒙, where 𝒚 is the distance traveled in miles and 𝒙 is the time in minutes spent traveling. Who gets from City A to City B faster?



1. In 2008, a collector of sports memorabilia purchased 5 specific baseball cards as an investment. Let 𝑦𝑦 represent each card’s resale value (in dollars) and 𝑥𝑥 represent the number of years since purchase. Each of the cards’ resale values after 0, 1, 2, 3, and 4 years could be modeled by linear equations as follows:



1. Which card(s) are decreasing in value each year? How can you tell?
2. Which card(s) had the greatest initial values at purchase (at 0 years)?
3. Which card(s) is increasing in value the fastest from year to year? How can you tell?
4. If you were to graph the equations of the resale values of Card B and Card C, which card’s graph line would be steeper? Explain.
5. Write a sentence explaining the 0.9 value in Card C’s equation.